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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/827,393	04/05/2001	Koji Shimada	10873.692US01	6367

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EXAMINER

PERRY, ANTHONY T

ART UNIT	PAPER NUMBER
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2879

DATE MAILED: 11/29/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/827,393

Applicant(s)

SHIMADA ET AL.

Examiner

Anthony T Perry

Art Unit

2879

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on _____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-6 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-6 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 4/05/01 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 3-4.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Drawings

The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the distance (d) between the electron shield and the path of the electron beam when it is scanned at 100% must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 112

Claims 4 and 5 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claim 4, lines 2-3 states "having a smaller anhysteretic magnetic permeability than another part." The claim doesn't state another part of what, and is therefore, considered to be indefinite. The examiner has interpreted the claim to read --having a smaller anhysteretic magnetic permeability than another part of the electron shield-- in treating the claim based on merits.

Regarding claim 5, lines "having a smaller anhysteretic magnetic permeability than another part." The claim doesn't state another part of what, and is therefore considered to be indefinite. The examiner has interpreted the claim to read --having a smaller anhysteretic

Art Unit: 2879

magnetic permeability than another part of the reinforcing member-- in treating the claim based on merits.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1 and 3-4 are rejected under 35 U.S.C. 102(b) as being anticipated by Kokubu et al. (US 4,931,690).

Regarding claim 1 and 4, Fig. 2 of the Kokubu reference discloses a cathode ray tube comprising a mask frame 4 with a shadow mask 3 fixed to the frame 4. The cathode ray tube also comprises of an electron shield 6 provided in the mask frame and an inner magnetic shield 7 which is supported by the mask frame 4. The recitation “at least a part of the electron shield has a smaller anhysteretic magnetic permeability than the shadow mask, the mask frame, and the inner magnetic shield when an applied magnetic field is 800 A/m (10 Oe)” is considered to be functional language since no structural limitation is stated. However, the specification of the present invention teaches that an electron shield with a plurality of holes has a smaller anhysteretic magnetic permeability than another part of the electron shield when an applied magnetic field is 800 A/m (10 Oe). Fig. 3 teaches an electron shield 11 with a plurality of holes 111 and therefore at least one part of the electron shield has a smaller anhysteretic magnetic permeability than another part of the electron shield as well as the shadow mask, the mask frame, and the inner magnetic shield when an applied magnetic field is 800 A/m (10 Oe).

Regarding claim 3, Fig 2. of the Kokubu reference teaches an electron shield 6 formed of a member different from the mask frame 4 so as to protrude beyond a front end portion on an electron beam side of the mask frame 4.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-2 and 4-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Youn et al. (US 6,144,149) in view of Jeong et al. (US 5,298,832).

Regarding claims 1-2 and 4, Youn discloses a cathode ray tube comprising a shadow mask 112 fixed to a mask frame 120 and an inner magnetic shield 122 supported by the mask frame 120 (see Fig. 4). The Youn reference does not specifically state an electron shield, however as shown in Fig. 4 the mask frame 120 is elongated on a front end portion of the electron beam side of the mask frame 120b so as to act as an electron shield. The portion 120b of the mask frame extends in the direction of the electron beam side past the inner magnetic shield. Fig. 3 of the Jeong reference further supports the use of a mask frame 4 which also acts as an electron shield (col. 4, lines 1-8). The recitation "at least a part of the electron shield has a smaller anhysteretic magnetic permeability than the shadow mask, the mask frame, and the inner magnetic shield when an applied magnetic field is 800 A/m (10 Oe)" is considered to be functional language since no structural limitation is stated. However, the specification of the present invention teaches that an electron shield with a plurality of holes has a smaller

Art Unit: 2879

anhysteretic magnetic permeability than another part of the electron shield when an applied magnetic field is 800 A/m (10 Oe). Youn discloses, in Fig. 5, a mask frame 120 with a plurality of holes 121a which are formed on the flange portion 120b (the portion that act as an electron shield). Youn teaches that it is well known that the holes 121a have an effect of compensating for magnetic influence (col. 3, lines 3-10). Therefore, at least one part of the electron shield has a smaller anhysteretic magnetic permeability than another part of the electron shield as well as the shadow mask, the mask frame, and the inner magnetic shield when an applied magnetic field is 800 A/m (10 Oe).

Regarding claim 5, the reasoning given in the rejection of claims 1-2 and 4, above, applies. Further, Youn teaches the mask frame 120 having an L-shaped cross-section (see Fig. 4). Youn further teaches that a reinforced plate may be attached to the support portion 120a or the flange portion 120b to reinforce the rigidity of the mask frame 120 (col. 3, lines 11-18). The recitation "the reinforcing member has a region having a smaller anhysteretic magnetic permeability than another part when the applied magnetic field is 800 A/m (10 Oe)" is considered to be functional language since no structural limitation is stated. However, the specification of the present invention teaches that an electron shield with a plurality of holes has a smaller anhysteretic magnetic permeability than another part of the electron shield when an applied magnetic field is 800 A/m (10 Oe). Youn remains silent with respect to the reinforcing plate having a plurality of holes, however, since Youn teaches the mask frame 120 having a plurality of holes and that it is well known that the holes have an effect of compensating for magnetic influence (col. 3, lines 3-10), it is obvious that the reinforcing plate have a plurality of holes for the same reason that the mask frame does. Therefore, the reinforcing member has a

Art Unit: 2879

region having a smaller anhysteretic magnetic permeability than another part of the reinforcing member.

Regarding claim 6, the reasoning given in the rejection of claims 1-2 and 4, above, applies. Youn in view of Jeong discloses the claimed invention except for the limitation of a path of the electron beam being at least 8mm from the electron shield at 100% scanning. It has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. It would have been obvious to one having ordinary skill in the art at the time the invention was made to provide an optimum minimum distance from the electron shield to the path of an electron beam at 100% scanning, since optimization of workable ranges is considered within the skill of the art.

Conclusion

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure:

Majima et al. (US 5,196,761) teaches coercive force of the shadow mask frame, internal magnetic shield, shadow mask and reinforcing member limited to a specific value when they are magnetized at a specific magnetic field.

Youn et al. (US 5,917,274) and Youn et al. (US 6,310,433) teach the use of resistance holes.

Sakurai et al. (US 4,472,657) and Makino et al. (JP 6-251720) teach an integrated electron shield and mask frame.

Nosker et al. (US 5,594,300) and Ragland (US 5,644,192) teach reinforcing members for the mask frame.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to *Anthony Perry* whose telephone number is (703) 305-1799. The examiner can normally be reached between the hours of 9:00AM to 5:30PM Monday thru Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nimesh Patel, can be reached on (703) 305-4794. The fax phone number for this Group is (703) 308-7382.


Communications via Internet e-mail regarding this application, other than those under 35 U.S.C. 132 or which otherwise require a signature, may be used by the applicant and should be addressed to [**Anthony.perry@uspto.gov**].

All Internet e-mail communications will be made of record in the application file. PTO employees do not engage in Internet communications where there exists a possibility that sensitive information could be identified or exchanged unless the record includes a properly signed express waiver of the confidentiality requirements of 35 U.S.C. 122. This is more clearly set forth in the Interim Internet Usage Policy published in the Official Gazette of the Patent and Trademark on February 25, 1997 at 1195 OG 89.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 308-0956.



Anthony Perry
Patent Examiner
Art Unit 2879
November 22, 2002



ASHOK PATEL
PRIMARY EXAMINER